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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
KAVLESKI, RYAN C	

ART UNIT	PAPER NUMBER
2419	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/784,170	BACK, DAE-WHAN	
	Examiner	Art Unit	
	Ryan C. Kavleski	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 March 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/5/2009 has been entered.

Response to Amendments

1. This communication is in response to Applicant's reply filed under 3 CFR 1.111 on 3/5/2009. Claims 1 and 6 were amended and claims 1-10 remain pending.

2. The previous objection to the specification in regards to the abstract for informalities has been withdrawn.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-10 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 6, the limitation "the symbol data is stored in the buffer by a frame," is indefinite because it is confusing to what is being done. For the purposes of examination, the limitation will be interpreted that the symbol data stored in the buffer are received as a frame or packet.

Regarding claims 1 and 6, the limitation "the address information indicating positions at each of which the initial symbol data of each channel are recorded is stored in the start address table" is indefinite because is unclear to what is being done when it has already been stated that the address information that indicates a location (position) of initial symbol data corresponding to each of the logical channels (each channel) is stored in the start address table.

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-3, 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsztoo et al (U.S Patent No. 6,639,915 B1)(Tsztoo hereafter) in view of Kuehnel et al (U.S Patent No. 5,907,542)(Kuehnel hereafter).

Regarding claims 1 and 6, Tsztoo teaches a symbol buffer memory device (934, FIG. 9) of a base station modem (900, FIG. 9), in which the symbol data (i.e., voice data) is stored for transmission to a physical layer (column 13, lines 38-41) comprising:

a buffer memory (voice packet buffer memory 934, FIG. 9) for storing the symbol data for the logical channel according to input sequences (i.e., input CHANNEL_ADD, FIG. 9);

- a start address table (i.e., channel address memory 922, FIG. 9) for storing address information (the channel address memory stores channel base address values)[column 15 lines 1-10] according to the logical channels (the channel base addresses are based upon CHANNEL# values stored in the content addressable memory (CAM))[column 15 lines 1-10], each of the address information indicating a location of initial symbol data corresponding to each of the logical channels from among the symbol data stored in the buffer memory [column 15, lines 11-19](the CHANNEL# values determine the channel base address within the channel address memory [column 15 lines 1-10], so that voice data can then be read or written to the VPBM according to a channel [column 15 lines 15-55]);

a multiplexer [930, FIG. 9] for selectively outputting the address information stored in the start address table (922, FIG. 9) by an enable signal (i.e., enable signal sent from request arbiter 928 to mux 930) set for each of the logical channels (column 12, lines 50-54), and

when the symbol data is stored in the buffer by a frame (voice data is carried in a packet and received from an external source)[column 12 lines 31-38][abstract], the address information indicating positions at each of which the initial symbol data of each channel are recorded is stored in the start address table (i.e., channel address memory 922, FIG. 9)(the channel address memory stores channel base address values [column

15 lines 1-10] determined by CHANNEL#'s from the CAM [column 15 lines 1-10], so that voice data can then be read or written to the VPBM according to a channel [column 15 lines 15-55]).

However Tsztoo fails to disclose in the embodiment that the symbol data of the logical channels are stored in a continuous arrangement within the buffer memory.

Tsztoo discloses within a second embodiment a buffer memory [refer Fig. 4; 406], in communication with a CAM [refer Fig. 4; 410], that receives and stores the voice data together or "binned"(continuous arrangement) according to predetermined channel [column 10, lines 12-28][refer Fig. 7; 700-0].

It would have been obvious to one of ordinary skilled in the art given the two embodiments of Tsztoo to be able to modify the implementation of the buffer memory disclosed within the second embodiment with the voice packet buffer memory (VPBM) disclosed within the third embodiment. One would be motivated to do so to provide a variation of a buffer memory used for storing voice data according to particular channel that would be similar in operation [refer Fig. 4 and Fig. 9].

However Tsztoo fails to disclose the symbol memory buffer of the base station modem belongs to a mobile communication system, in which the symbol data corresponding to at least one logical channel and coded in at least one encoding ratio is stored.

Kuehnel teaches a telecommunication network, with emphasis on wireless mobile telecommunication system, for providing signaling techniques using ATM technology. According to the teaching, the encoded symbol data (column 6, lines 11-14)

sent from logical channels (i.e., virtual channels) are stored in a dedicated memory of a mobile terminal (column 6, lines 7-10).

It would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify the teaching of Tsztoo to integrate the symbol memory buffer of the base station modem with a mobile communication system, in which the symbol data corresponding to at least one logical channel and coded in at least one encoding ratio is stored as taught by Kuehnel. One would be motivated in order to provide cost and transmission efficiency of the wireless system infrastructure (column 3, lines 44-47) and to establish communications using unique control of signaling channels between the mobile terminal and the wireless network controller (column 4, lines 13-22).

Regarding claims 2 and 7, Tsztoo teaches when storage of symbols corresponding to a predetermined channel has been completed, an initial symbol of a channel is subsequently stored at a position of a word in the buffer memory next to the already-stored symbols (the storing of data symbol among channels is continuous in the buffer) [column 10, lines 12-16, 29-32].

However, Tsztoo fails to explicitly specify the predetermined channel is of a logical channel.

Kuehnel et al teach a telecommunication network, with emphasis on wireless mobile telecommunication system, for providing signaling techniques using ATM technology. According to the teaching, the encoded symbol data (column 6, lines 11-14)

sent from logical channels (i.e., virtual channels) are stored in a dedicated memory of a mobile terminal (column 6, lines 7-10).

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify the teaching of Tsztoo to integrate the symbol memory buffer of the base station modem with a mobile communication system, in which the symbol data corresponding to at least one logical channel and coded in at least one encoding ratio is stored as taught by Kuehnel et al. One is motivated as such in order to provide cost and transmission efficiency of the wireless system infrastructure (column 3, lines 44-47).

Regarding claim 3 and 8, Tsztoo teaches a selection signal input to the multiplexer (i.e., enable signal sent from request arbiter 928 to mux 930) is produced by reading an enable state of a corresponding channel by means of a pulse signal (i.e. control signal, column 14, lines 8-12) of each channel, the enable state of the corresponding channel being stored in the start address table (i.e., channel address memory 922, FIG. 9).

3. Claims 4-5, 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsztoo et al. in view of Kuehnel et al. in further view of Witkowski et al (U.S Patent No. 6,201,789 B1)(Witkowski hereafter).

Regarding claims 4-5 and 9-10, Tsztoo and Kuehnel fail to teach when symbol data for one channel are divided and stored in at least two storage sectors of the buffer memory,

link information between the storage sectors in which the symbol data for said one channel are stored is stored in the buffer memory and in the start address table.

Witkowski teaches a network switch having a plurality of ports for sending and receiving data packets. It is disclosed that a switch includes a memory having a data packet portion divided into sectors chained together using link addresses. According to the embodiment, the sectors are initially linked into a freepool chain of sectors. As data packets are received, a receive sector chain is created for each network port by pulling sectors from the freepool chain as needed (column 3, lines 54-64). Hence, the link addresses enable the data packets stored in different sectors to be transmitted and received in their entirety.

It would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify the teachings of Tsztoo and Kuehnel to create link information when symbol data for one channel are divided and stored in at least two storage sectors of the buffer memory and store such linking information in the buffer memory and in the start address table as taught by Witkowski. One would be motivated to do so in order to include transmit address links to form transmit packet chain for each port receiving data packets for transmission (refer Witkowski; column 3, lines 44-47).

Response to Arguments

1. Applicant's arguments filed 3/5/2009 have been fully considered but they are not persuasive.

2. Regarding claims 1 and 6, applicant argues that the applied reference does not teach "a buffer memory for storing symbol data for the logical channel according to input sequences" and "storing symbol data in a buffer in a continuous arrangement."

In response to the above-mentioned argument, examiner respectively disagrees. Tsztoo teaches a voice packet (symbol data) buffer memory that stores the data according to an input instruction (input sequence), referred in the previous office action in Fig. 9; 926 in Tsztoo, input CHANNEL_ADD. Tsztoo teaches that CHANNEL_ADD, or CHAN.sub.13 ADD, as further explained in column 15 lines 11-19, notifies the VPBM system of where store voice data in accordance to a channel.

Tsztoo discloses that the voice data is stored within buffer memory, similar to the VPBM in the third embodiment disclosed, according to different channels, the contiguous memory space of the buffer is divided into non-contiguous portions so that each portion is representative of a channel [refer Tsztoo; column 10 lines 19-21]. As can be seen from Figure 7, each channel (referred to as CID's) has a section of memory using a base address pointing to the initial section of memory in the buffer storing the voice data corresponding to that channel (referred to as VD)[column 10 lines 33-48]. It is clear from Tsztoo's disclosure of the buffer memory containing voice data for each channel to show that the voice data is indeed stored so that the voice data of each channel is in a continuous arrangement, meaning packed together as shown with the VD's in Fig. 7.

3. Regarding claims 1 and 6, applicant argues that the applied reference does not teach "a start address table for storing address information according to the logical channels."

In response to the above-mentioned argument, examiner respectively disagrees. As noted in the previous office action, Tsztoo teaches that a channel address memory, refer Tsztoo Fig. 9; 922, stores address information regarding particular channels [column 15 lines 1-10], the addresses used to indicate where voice data (symbol data) is to be stored for a particular channel in the VPBM [column 15 lines 43-50]. Data can then be read from the VPBM according to a particular channel [column 15 lines 51-53] based on the addressing used by the channel address memory for storing the data in the VPBM [column 15 lines 11-19]. Specifically, the CAM stores CHANNEL# values which then are used by the channel address memory (start address table) to determine a corresponding storage location, such as the channel base address (location of initial symbol data stored in buffer memory) used to process voice data, as noted in the applicant's remarks [column 14 lines 63-67, column 15 lines 1-10] and can be seen in the second embodiment of a buffer memory [refer Fig. 7; BASE ADDRESS].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan C. Kavleski whose telephone number is 571-270-3619. The examiner can normally be reached on Mon-Fri 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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